REMARKS

Claims 30-66 are pending in this application. Claims 30, 46, and 54 are independent claims.

Rejection under 35 U.S.C. §112

The Office Action rejected claims 46-52 under 35 U.S.C. § 112, first paragraph, as not enabled, on the grounds that the application does not support the claim element "calculating a target feature vector for said target object according to a third mass distribution indicator." It is respectfully submitted that this claim element is enabled.

As described in paragraph 0032, and illustrated in Fig. 2, the model definition phase may include generation of regions of a plane containing a model object and extraction of features from these regions (or extraction of a feature vector).

As described in paragraphs 0034-0037, the generation of regions may be performed according to a first mass distribution of the model object and according to a second mass distribution of a part of the model object. These may correspond to the "first mass distribution indicator" and "second mass distribution indicator" for the model object.

Paragraphs 0038 and 0039 then describe how a feature vector may be created for the model object by extracting features, where an extracted feature may be any indicator of the distribution of mass of the object:

> [0038] Referring to FIG. 2, the second step of the model definition phase consists of creating a feature vector for the model object (at 202), by extracting features from the generated regions. An extracted feature can be any indicator of the distribution of mass of the object in the corresponding region, such as an indicator derived from geometric moments of various orders, or alternatively from the median.

Thus, according to paragraphs 0038-0039, the creation of a feature vector for the model object may be performed by extracting, from generated regions, features that are "indicator[s] of

the distribution of mass of the object in the corresponding region." The feature vector for the

model object may, therefore, be created "according to a third mass distribution indicator".

The feature vector for the target object may be created in the same way that the feature

vector for the model object is created. As explained in paragraph 0044:

> The feature vector is extracted from the target object according to the same
> feature extraction scheme as used for the model definition phase. Thus, referring
> to FIG. 8, regions of the plane containing the target object are generated (at 800)
> and then features are extracted from these regions (at 802), following the
> corresponding steps of the model definition phase (at 200 and 202).

Accordingly, the generation of regions for the target object may be performed according

to a first mass distribution of the target object and according to a second mass distribution of a

part of the target object. These may correspond to be the "first mass distribution indicator" and

"second mass distribution indicator" of claim 46.

Similarly, as explained in paragraph 0046, the feature vector may be extracted from the

generated regions in the same way as during the model definition phase.

Thus, as in the model object case, creating a target feature vector for the target object may

be performed by extracting, from generated regions, features that are indicators of the

distribution of mass of the target object in the corresponding region. This can correspond to, and

provides an enabling disclosure for, the claim language "calculating a target feature vector for

said target object according to a third mass distribution indicator."

Accordingly, withdrawal of the rejection of claims 46-52 under 35 U.S.C. § 112, first

paragraph, is respectfully requested.

Rejections Under 35 U.S.C. § 102

The Office Action rejected claims 30-31, 40-45, 54, 56, 58-59, and 64-66 under 35

U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,272,245 to Lin. Applicant respectfully

traverses these rejections.

Claims 30, 31, and 40-45

Independent claim 30 requires generating regions of the plane containing the target object

"according to a first mass distribution of the target object and a second mass distribution of a part

of said target object." This limitation is not met in Lin.

In Lin, a "search window" moves through a scanned trial document. See Step S36 of Fig.

7A and col. 7, ll. 37-45. Lin selects a "gray scale image sub-block" from the search window.

See Step S38 of Fig. 7A and col. 7, ll. 47-49. In Lin, neither the search window nor the gray

scale image sub-block, assuming that these could be "regions," is generated "according to a first

mass distribution of the target object and a second mass distribution of a part of said target

object." Therefore, Lin cannot anticipate claim 30.

Accordingly, it is respectfully requested that the rejection of claim 30 under 35 U.S.C. §

102 be withdrawn.

Because each of claims 31 and 40-45 depend from and include all of the limitations of

claim 30, it is submitted the rejections of these claims should be withdrawn for at least the same

reasons.

Claims 54, 56, 58-59, and 64-66

With respect to claim 54, the Office Action states that Lin discloses the steps of

"determining a first target feature vector associated with a first direction of said plane by

determining a first target feature associated with said first direction in one or more of said

regions" and "determining a second target feature vector associated with a second direction of said plane by determining a second target feature associated with said second direction in one or more of said regions."

The Office Action does not indicate which passages or figures of Lin disclose these steps, simply stating that the first and second directions in Lin are the "x direction" and the "y direction," respectively. This appears to refer to the x and y projection vectors, X^T and Y, which are illustrated in Fig. 6 and described in column 6, lines 53-65 for the model document (registration mode), and in column 7, lines 44-53 for the trial document (detection mode). It appears that the Office Action considers the x projection vector, X^T, to be the "first target feature vector associated with a first direction of said plane" and the y projection vector, Y, to be the "second target feature vector associated with a second direction of said plane."

Even assuming that the x and y projection vectors X^T and Y are first and second target feature vectors, however, Lin does not teach the steps of (a) computing a first similarity score using the vector X^T and a first model feature vector or (b) computing a second similarity score using the vector Y and a second model feature vector.

In Lin, as illustrated in Fig. 6 and described in column 6, lines 53-65, the x and y projection vectors, $X = (x_1, x_2, \ldots x_N)$ and $Y = (y_1, y_2, \ldots y_N)$, are combined to perform a single feature vector, $Z = (X, Y) = (x_1, y_1, x_2, y_2, \ldots x_N, y_N) = (z_1, z_2, \ldots z_{2N})$. Then, as described at column 7, line 53-column 8, line 1, a single similarity score S_j is determined between the feature vector Z (extracted from a search window of the scanned trial document) and a significant region of the model document. Lin, therefore, does not teach the steps of computing two separate similarity scores, one for the x projection vector, $X = (x_1, x_2, \ldots x_N)$, and the other for the y projection vector, $Y = (y_1, y_2, \ldots y_N)$.

Accordingly, because Lin does not teach the claimed steps of "computing a first similarity score using said first target feature vector and said first model feature vector" and "computing a second similarity score using said second target feature vector and said second model feature vector," Lin does not anticipate claim 54, and it is respectfully requested that the rejection of claim 54 under 35 U.S.C. § 102 be withdrawn.

Because each of claims 56, 58-59, and 64-66 depend from and therefore include all of the limitations of claim 54, it is submitted the rejections of these claims under § 102 should be withdrawn for at least the same reasons.

<div align="center">Rejections Under 35 U.S.C. § 103</div>

The Office Action rejected claim 30 under 35 U.S.C. § 103(a) as being unpatentable over Imai, US 2005/0036709, a United States Patent Application filed on May 14, 2004. Applicant traverses this rejection on the grounds that Imai is not prior art to the instant application.

U.S. Patent Applications that claim priority to foreign national applications are afforded prior art status only as of their U.S. filing dates. See MPEP § 2136.03 ("Foreign applications' filing dates that are claimed (via 35 U.S.C. § 119(a)-(d), (f) or 365(a)) in applications, which have been published as U.S. or WIPO application publications or patented in the U.S., may not be used as 35 U.S.C. § 102(e) dates for prior art purposes."). As the instant application was filed on September 22, 2003, well before Imai's U.S. filing date, Imai is not prior art.

The Office Action also rejected claim 39 under 35 U.S.C. § 103(a) as being unpatentable over Lin in view of Pearce. As described in connection with the § 102 rejection of claim 30, however, Lin does not teach, at least, the element "according to a first mass distribution of the target object and a second mass distribution of a part of said target object" and, therefore, the

combination of Lin and Pearce (which does not teach this element either) does not include all of

the features recited in claim 39 and cannot render the claim unpatentable under § 103(a).

Accordingly, withdrawal of these rejections is respectfully requested.

Allowable Subject Matter

Applicant appreciates the acknowledgement that claims 32-38, 53, 55, 57, and 60-63

would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims. As described above, however, applicant believes that the

independent claims are patentable and that these claims are also patentable for at least the same

reasons. Applicant has therefore chosen not to rewrite these claims at this time.

CONCLUSION

In view of the foregoing amendments and remarks, reconsideration is respectfully requested. This application should now be in condition for allowance; a notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 50/2762.

Respectfully submitted,

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